

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Stephan K. Barsun et al.	<u>CERTIFICATE OF FACSIMILE TRANSMISSION</u> I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office, Alexandria, Virginia on the date below.
Title: MULTI-HEAT SINK ARRANGEMENT	<i>Todd A. Rathe</i> (Printed Name)
Appl. No.: 10/803,399	(Signature)
Filing Date: 03/18/2004	(Date of Deposit)
Examiner: Pape, Zachary	
Art Unit: 2835	

REPLY BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is in response to the Examiner's Answer mailed on August 7, 2009. For the following reasons, Appellants respectfully request that the Board reverse all claim rejections under 35 USC 102(b) and 103(a). Appellants acknowledge the rejection of claim 17 under 35 USC 112, second paragraph and agree to amend claim 17 to address this rejection upon reversal of the remaining claim rejections.

The disputed issues of this appeal can be condensed to three main questions: (1) do DiBene and the background section of Appellant's own application (AAPA) suggest a heat sink that extends the least partially across another heat sink that itself is thermally coupled to a power pod (claims 34 and 37); (2) what is the plain meaning of "opposite to opposite sides" (claims 39-41), especially in light of Appellants' own

specification; and (3) what is the plain meaning of "at least partially around" in combination with "opposite to opposite sides" (claim 54).

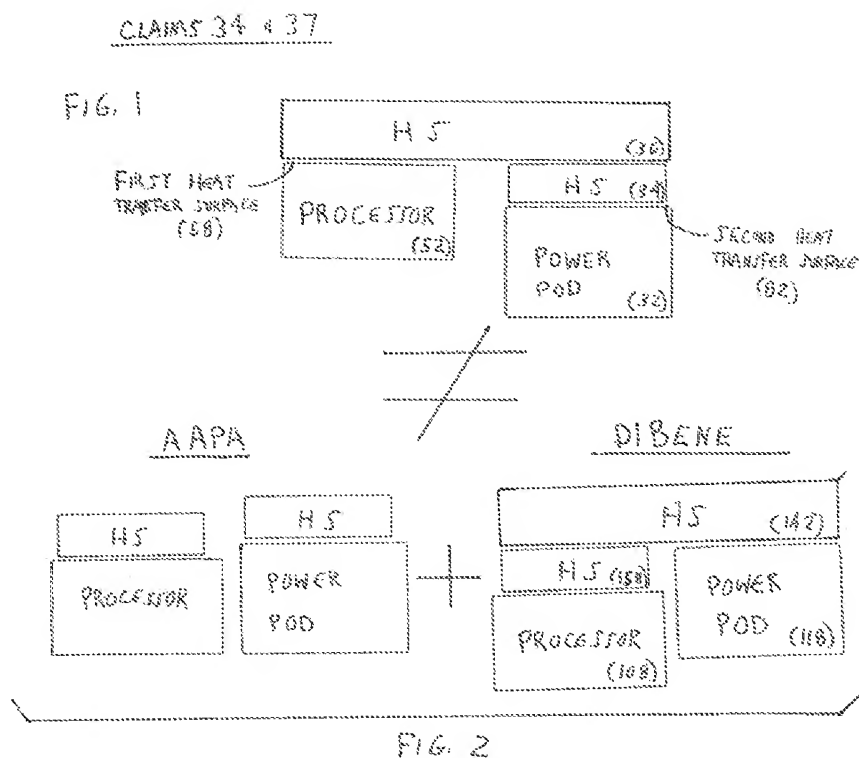
I. Neither DiBene nor AAPA, Alone or in Combination, Disclose or Suggest a Heat sink That Extends the Least Partially across Another Heat sink That Itself Is Thermally Coupled to a Power Pod (Claims 34 and 37).

In response to Appellants points set forth in the Appeal Brief regarding the rejection of claims 34 and 37 based upon DiBene and AAPA, the Examiner asserted that "Appellants are engaging in piecemeal analysis of the references." This is incorrect. Rather, as shown below, it is the Examiner who is improperly using Appellants' own disclosure as a blueprint for combining features of DiBene and AAPA.

The diagrams below illustrate Appellants' point. Figure 1 is a schematic representation of the basic elements of Claims 34 and 37. The numbers in parentheses represent the example corresponding structures found in Figure 3 of the Application. As shown by Figure 1, claim 34 is directed to a heat sink (36) that extended least partially across another heat sink (34) that itself is thermally coupled to a heat transfer surface (82) of a power pod (32). Claim 37 is directed to a first means (34) for dissipating heat emitted by the power supply (power pod) (32) while not substantially receiving heat from the processor and a second means (36) for dissipating heat emitted by the processor (52), wherein the second means (36) extended least partially across and over the first means (34).

Figure 2 schematically illustrates the prior art references relied upon by the Examiner to reject claim 34. The left hand side of Figure 2 illustrates what the Examiner alleges that AAPA discloses, namely, "a processor and a power pod both with adjacent heat sink (I.E. the heat sinks are placed atop each)." (Examiner's Answer, page 12).

The right-hand side of Figure 2 schematically illustrates what is actually taught by DiBene. The numbers in parentheses correspond to the actual reference numerals from the disclosure of DiBene.



As clearly represented by Figure 2, even assuming, arguendo, that it were obvious to combine AAPA and DiBene, the resulting combination does not result in the processor module of Figure 1 or claims 34, 37. AAPA + DiBene does not yield claim 34 or claim 37. Once again, claim 34 recites a heat sink (36) that extends least partially across another heat sink (34) that itself is thermally coupled to a heat transfer surface (82) of a power pod (32). In other words, the heat sink coupled to the power pod is overlapped by another heat sink that also overlaps the processor.

DiBene teaches JUST THE OPPOSITE. In DiBene, it is the heat sink that is coupled to the processor (NOT the heat sink coupled to the power pod) that is overlapped by another heat sink. DiBene discloses a completely different and distinct arrangement. DiBene says absolutely nothing about alternatively or additionally having a heat sink over power pod 118. Moreover, this is not simply a reversal of parts as a processor and a power pod clearly have distinct heat emission characteristics such that the different arrangements would perform distinctly.

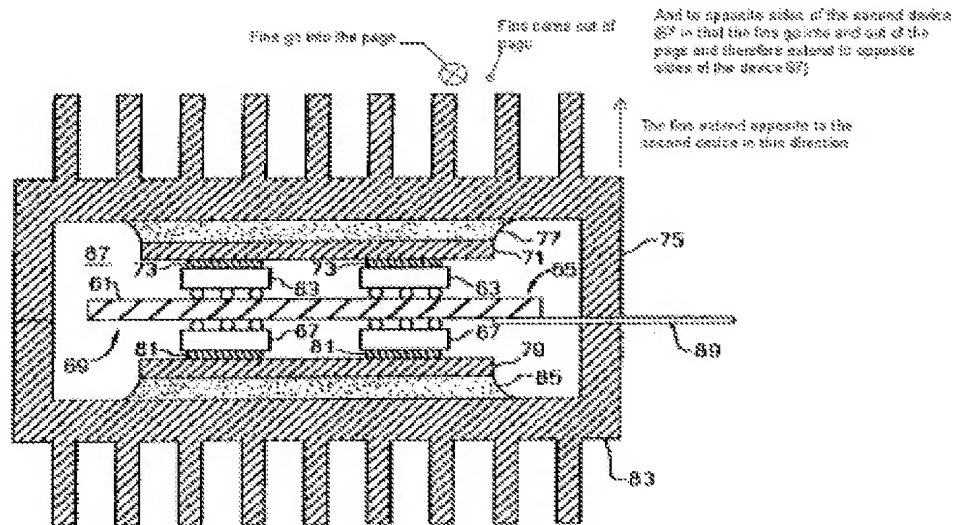
AAPA is irrelevant with respect to DiBene. It is hard to see how one of ordinary skill in the art would be led to somehow modify DiBene based upon AAPA. As shown by Figure 2, the Examiner merely alleges that AAPA disclose that the processor and the power pod each have a dedicated heat sink. AAPA says absolutely nothing about alternatively moving heat sink 158 of DiBene **over power pod 118**. AAPA says nothing about adding another heat sink over power pod 118 since such a modification would, on its face, appear to be redundant since power pod 118 is already provided with heat sink 142. AAPA says nothing about any benefit of having **TWO** heat sinks **over a power pod**, where one of the heat sinks also overlaps the processor. Such a modification would presumably require a complete reconstruction of DiBene, altering its principle of operation or rendering it unsatisfactory for its intended purpose. (See MPEP 2143.01).

The Examiner's rejection of claims 34 and 37 appears to rely upon selectively picking and choosing elements and completely rearranging such elements in order to arrive at the novel module of claims 34 and 37 (shown in Figure 1 above). Since no teaching or a suggestion exists for modifying DiBene as alleged by the Examiner in order to reject claims 34 and 37, Appellants can only presume that the Examiner has unconsciously concluded that such a modification would be obvious based upon impermissible hindsight reasoning using Appellants' own disclosure as a blueprint. It is well settled law that such hindsight reasoning is improper. Accordingly, the rejection of claims 34 and 37 should be reversed. The rejection of claim 35, 36 and 51 which depend from claim 34 should be reversed for at least the same reasons.

II. Neither Patel nor DiBene combination with AAPA, Disclose or Suggest a Heat sink That Extends "Opposite to Opposite Sides" of a Heat Emitting Device That Is Itself Coupled to Another Heat Sink (Claim 39) or That Extends "Opposite to Opposite Sides" of Another Heat Sink (Claims 40- 42)

In response to Appellants' points set forth in the Appeal Brief regarding the rejection of claims 39 and 40 based upon Patel alone or the rejection of claims 41-42 based upon DiBene and AAPA, the Examiner attempts to rely upon the annotated figures provided below and asserts that heat sink fins that supposedly extend into

and out of the page somehow extend "opposite to opposite sides" of a device that is itself coupled to another heat sink (Claim 39) or extends "opposite to opposite sides" of another heat sink (Claims 40- 42).



However, note that the Examiner's own annotation of the figure itself above does NOT even address the actual claim limitations. The Examiner's annotation contends that "the fins go into and out of the page and therefore **extend to opposite sides of the device.**" (Emphasis added).

But claims 39-40 and 40-42 do not merely recite that the fins "extend to opposite sides of the device". Rather, the claims actually recite that the heat sink fins extend opposite to opposite sides of a heat emitting device (claim 39) or of another heat sink (claims 40-42). A structure extending "to opposite sides of a device" is NOT the same as a structure extending opposite to opposite sides of device.

The Examiner's annotation further contends that the fins "extend opposite to the second device" in the noted direction. Once again, the Examiner's annotation fails to address the actual claim limitations. Fins merely extending "opposite to" a

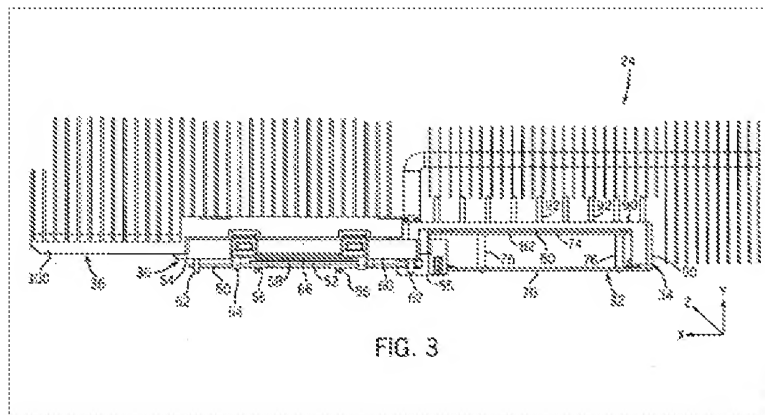
device does not mean that the fins also extend “opposite to opposite sides” of the device.

Moreover, the Examiner’s construction of the phrase “opposite to opposite sides” does not comport with either (1) the plain meaning of this phrase or (2) the meaning of this phrase in light of the specification. First, the Examiner’s argument is analogous to arguing that the overhang of a roof extends opposite to the side of the house. Clearly, the overhang of a roof does not extend opposite to or face a side of a house.

Appellants’ respectfully note that the claims do **NOT** broadly recite that the heat sink extends opposite to opposite sides of **a volume or space to a side** of another heat sink or to a side of another device. In contrast, the claims specifically recite that the heat sink extends opposite to opposite sides of a heat emitting device (claim 39) or of another heat sink (claims 40-42). Neither the fins of DiBene nor the fins of Patel extend opposite to opposite sides of a heat emitting device (claim 39) or of another heat sink (claims 40-42).

Second, the Examiner’s asserted construction of the phrase “opposite to opposite sides” does not comport with the meaning of this phrase in light of the specification. As made explicitly clear by the court in Phillips, the specification is the single best guide to determining the meaning of a claim term. Phillips v. AWH Corp., 415 F.3d 1303, 1321 (Fed. Cir. 2005). Moreover, a claim term may be defined in the specification not only by an express statement of redefinition, but by mere implication. Id. at 1321; Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1268 (Fed. Cir. 2001).

In the present case, the specification illustrates that the heat sink extends “opposite to opposite sides” of a heat emitting device (claim 39) or of another heat sink.



Those of ordinary skill in the art, after reading the specification, would logically conclude that the term "opposite to opposite sides" in the claims does NOT merely mean opposite to opposite sides of **any volume** or space to a side of another heat sink or to a side of another device as alleged by the Examiner, but instead means "opposite to opposite sides" of a structure (the fins 92 of another heat sink or the sides of a heat emitting device 32) as recited in the claims. Accordingly, the rejection of claims 39-42 should be reversed.

III. Neither DiBene nor AAPA, alone or in combination, Disclose or Suggest a Heat sink having fins That Extends "Opposite To Opposite Sides" of Fins of Another Heat Sink AND That Extend At Least Partially around the Fins of the Other Heat Sink

In response to Appellants' points set forth in the Appeal Brief regarding the rejection of the rejection of claim 54 based upon DiBene and AAPA, the Examiner repeats the same argument previously made with respect to claim 39-42 and further argues that the fins of heat sink 142 also "extend at least partially around" plated through holes (PTHs) 168 of DiBene (characterized as the fins of the second heat sink). Both of such claim constructions contradict the plain meaning of such limitations.

As noted above with respect to the rejection of claims 39-41, the Examiner's construction appears to be incorrectly treating the limitation "opposite to opposite sides" of a structure (the fins of another heat sink or the sides of a device) the same

as "opposite to opposite to opposite sides of a volume or space to a side of another heat sink or to a side of another device. This construction does not comport with the plain meaning of such limitations or the meaning of the limitations in light of the specification.

Moreover, claim 54 further recites that the fins of the heat sink extend at least partially around the fins of the other heat sink. As shown by the Examiner's own illustration, the fins of heat sink 142 of DiBene clearly do not extend at least partially around PTHs 168 of DiBene. In contrast, the fins 144 of heat sink 142 of DiBene simply literally extend over PTHs 168. The Examiner's argument is analogous to arguing that a sheet of paper lying on top of the desk extends at least partially around the desk. If the sheet of paper turned a corner so as to also extend along both a top and a side of the desk, it could possibly be argued that the sheet of paper extends at least partially around the desk. However, the fins 144 of heat sink 142 of DiBene only extend along a single side or face of PTHs 168. Therefore, fins 144 of heat sink 142 do not extend at least partially around PTHs 168 of DiBene. Accordingly, the rejection of claim 54 should be reversed.

IV. Conclusion

In view of the foregoing, the Appellants submit that Claims 39 and 40 are not properly rejected under 35 U.S.C. § 102(b) as being as being anticipated by U.S. Patent No. 5,396,403 (Patel) and are therefore patentable. Claims 41 and 42 are not properly rejected under 35 U.S.C. § 102(b) as being as being anticipated by U.S. Patent No. 6,356,448 (DiBene) and are therefore patentable. Claims 34-37, 39-40, 51 and 53-54 are not properly rejected under under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of U.S. Patent No. 6,356,448 (DiBene) and are therefore patentable. Accordingly, Appellants respectfully request that the Board reverse all claim rejections and indicate that a Notice of Allowance respecting all pending claims should be issued.

Summary

For the foregoing, it is submitted that the Examiner's rejections are erroneous, and reversal of the rejections is respectfully requested.

Dated this 7th day of October, 2009.

Respectfully submitted,

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